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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,666	10/23/2003	Hiroyuki Kano	033294-017	5862
21839	7590	09/22/2005	EXAMINER	
BUCHANAN INGERSOLL PC (INCLUDING BURNS, DOANE, SWECKER & MATHIS) POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			NGUYEN, CUONG H	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/690,666	KANO ET AL.	
	Examiner	Art Unit	
	CUONG H. NGUYEN	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/09/05 (the IDS).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/22/04 & 6/09/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is the answer to the IDS received on 6/09/2005.
2. Claims 1-10 are pending in this application.

Priority

3. Acknowledgment is made of applicants' claim for foreign priority based on Japanese paper 2002-310640 dated on 10/25/2002.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

A. Re. to independent claim 1: Claim 1 recites the limitation of "...changing the state of the clutch from a connecting state to a disconnecting state before the transmission start the shift operation" in lines 6-7 of this claim. There is insufficient antecedent basis for this limitation in the claim.

B. Re. to dependent claim 2: Claim 2 recites the limitation "**the road surface**" in line 3 of this claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipate by Muramoto et al. (US Pat. 6,351,700).

Muramoto et al. teach an automatic clutch control device comprising:

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- a clutch connecting/disconnecting actuator for driving a clutch, disposed between an output shaft of a power source of a vehicle and an input shaft of a transmission, so as to be connected or disconnected (see Muramoto et al., the abstract; and Fig.1 clutches 9-10);
- a clutch control means that executes a disconnecting operation for changing the state of the clutch from a connecting state to a disconnecting state before the transmission starts the shift operation and executes a connecting operation for changing the state of the clutch from the disconnecting state to the connecting state after the shift operation is completed disconnected (see Muramoto et al., col.2 lines 24-43; col. 10 lines 63-67, and col.11 lines 15-25); wherein the clutch control means changes a speed of the connecting operation and a speed of the disconnecting operation in accordance with a running state of the vehicle (see Muramoto et al., claims 1, 7; and col. 12 lines 45-60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Muramoto et al. (US Pat. 6,351,700), in view of Kadota (US Pat. 6,898,504).

The rationales and reference for rejection of claim 1 are incorporated.

Muramoto et al. do not disclose about a relation between a torque and a surface friction coefficient account for a vehicle's stability.

However, Kadota suggests that a surface friction coefficient is used to calculate required torque for stability by changing connecting/disconnecting speeds (increase or decrease) of the clutch (see Kadota, col. 20 lines 20-33).

It would have been obvious to one of ordinary skill in the art at the time of invention to combining teachings in the disclosures of Muramoto et al., and Kadota because this would be logical to recognize that friction coefficient is reverse-proportional to an acceleration slippage; hence if a road friction coefficient becomes smaller, acceleration slippage would increase and a slowdown of connecting/disconnecting speed is required for a vehicle's stability.

Conclusion

7. Claims 1-10 are not patentable.
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG H. NGUYEN whose telephone number is 571-272-6759. The examiner can normally be reached on 7:00 am - 3:15 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THOMAS G. BLACK can be reached on 571-272-6956. The fax phone number for the organization where this application is assigned is 703-305-7687.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cuong H. Nguyen
CUONG H. NGUYEN
PRIMARY EXAMINER